IMPROVING NATIONAL AIR QUALITY FORECASTS WITH SATELLITE AEROSOL OBSERVATIONS

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Satellite aerosol observations—which are particularly helpful in tracking long-range transport aloft—can overcome some of the limitations of surface monitoring networks and enhance daily air quality forecasts associated with particle pollution.

Public awareness of local air quality is growing rapidly. Air quality is often considered like the weather—it changes, and some days are better than others. While poor air quality impairs visibility and can damage vegetation and structures, most importantly it can cause serious health problems, including respiratory difficulties and even premature death. Accurate air quality forecasts can offer significant societal and economic benefits by enabling advance planning. Individuals can adjust their outdoor activities to minimize the adverse health impacts of poor air quality. The severity of local pollution episodes may even be reduced by allowing early implementation of mitigation procedures commonly referred to as "action days." Yet air quality forecasting is quite complex. While pollution episodes are typically associated with local meteorological conditions and nearby emissions, it is increasingly recognized

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